

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD

CONTOUR FARMING

(Acre)
CODE 330

DEFINITION

Farming sloping land in such a way that preparing land, planting, and cultivating are done on the contour. (This includes following established grades of terraces or diversions.)

PURPOSE

To reduce sheet and rill erosion.

To manage runoff water.

CONDITION WHERE PRACTICE APPLIES

This practice applies on sloping cropland and on recreation and wildlife areas where crops are grown to reduce sheet and rill erosion and sediment production when other cultural or management cropping system practices do not adequately control soil and water loss.

This practice is most suitable on uniform slopes with slope lengths equal to or less than the Critical Slope Length determined using the RUSLE2 or current erosion prediction model "P" factor procedure.

The effect on erosion reduction for this practice is reduced on fields where slope length exceeds the Critical Slope Length for contouring, unless the slope length is shortened by the installation of other practices such as terraces.

This practice is unsuitable for use on irregular sloping topography because of

the difficulty of staying within-row grade limits and the number of point rows needed.

CRITERIA

General Criteria Applicable To All Purposes.

NOTE: Specific program guidance may be more restrictive on a number of these criteria. Refer to program manual for specific program requirements.

A. Row Grade and Baselines:

The in-row grade shall align as closely as practicable to the contour to achieve the greatest erosion reduction possible. The maximum in-row grade shall not exceed the lesser of one-half of the up and down hill field slope or two percent.

For crops sensitive to ponded water for periods less than 48 hours and/or on soils classified as somewhat poorly drained, poorly drained, or very poorly drained, design a positive row grade of no less than 0.5 percent sloping toward a stable outlet.

In-row grade up to three percent is permitted for a maximum of 150 feet as crop rows approach a stable outlet.

When the in-row grade reaches the maximum allowable design grade, a new baseline shall be established up or down slope from the last contour line and used for the layout of the next contour pattern. A baseline is a contour line laid out on the field to establish the tillage and planting row pattern.

<p>Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resource Conservation Service.</p>

Cross slope farming practices may be credited under this practice when farming operations and planting rows are generally aligned perpendicular to the dominant slope of the field and when in-row grade does not exceed one-half of the dominant slope.

B. Field Borders:

On fields where row crops are part of the crop rotation, establish and maintain field borders in perennial herbaceous vegetative cover where concentrated water flows will develop or when up and down hill farming of end rows will result in a soil loss exceeding tolerable soil loss levels. Field borders shall be sufficient width to accommodate turning farm equipment without additional end rows. See Field Border Standard ([386](#)).

C. Stable Outlets:

Direct surface flow from contour/cross slope crop rows toward a stable outlet. Stable outlets include grassed waterways, field borders, underground outlets for terraces or diversions, water and sediment control basins, or similarly stabilized areas.

CONSIDERATIONS

Protect areas of existing or potential concentrated flow erosion with one or more conservation practices such as grassed waterways, field borders, water and sediment control basins, terraces, or diversion terraces.

Design and install the contour farming layout to best facilitate operation of all machinery used on the field.

Where feasible and within policy constraints for wetlands, cultural resources, etc., remove obstructions or make changes in field boundaries, or shape to improve the effectiveness of the practice and the ease of performing farming operations.

Where contour row curvature becomes to sharp, establish sod turn strips on ridge points. Establish grassed waterways in drainage ways for turning and for erosion control from runoff of concentrated water flows. These strips shall be wide enough to allow the equipment to be lifted, turned, and aligned with row patterns across the strip.

PLANS AND SPECIFICATIONS

Specifications for installation, operation, and maintenance of contour farming shall be prepared for each field according to the Criteria, Considerations, and Operations and Maintenance described in this standard, and shall be incorporated into narrative statements in conservation plans, or recorded on specification job sheets as needed.

The following components shall be included for recording this specification:

- Aerial photo or map with field identified
- Aerial photo or map with baseline marked
- RUSLE2 documentation

OPERATIONS AND MAINTENANCE

Conduct all farming operations parallel to contour baselines. Farming operations should start on the contour baselines and proceed both up and down the slope in a parallel pattern until patterns meet. Odd areas will be placed between the parallel contour rows. Alter tillage patterns to avoid creating low areas that will redirect surface water flow patterns.

Establishment and maintenance of a narrow strip (1-5 feet wide) of permanent vegetation along the baseline will help in maintaining established contours.

Renovate field borders as needed to keep ground cover above 65 percent. Renovation shall only include the

immediate seedbed preparation and reseeding to a sod-forming crop with or without a nurse crop. Maintain sufficient field border width to allow farm implements room to turn and double back on adjacent rows.

REFERENCES

- Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE); Agricultural Handbook Number 703.
- Revised Universal Soil Loss Equation Version 2 (RUSLE2)
http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm.
- Field Office Technical Guide (FOTG) Standards
 - Grassed Waterways (412)
 - Field Borders (386)
 - Terraces (600)